

Names _____ & _____ Pasta Tower Challenge Part 2

You have just completed a pre-build experience. You received 20 pieces of spaghetti and 30 marshmallows and were challenged to build the strongest, tallest structure you could. Please record 3 things you learned from this pre-build:

- 1)
- 2)
- 3)

Now you will use your learning to complete a new challenge. Your challenge:

- Your tower must be at least 20cm tall and support a minimum of 200g of sand
- You may only use the materials supplied by your teacher (100 spaghetti noodles and 50 marshmallows)
- You must increase your efficiency from the last challenge

DEFINE THESE TERMS

Foundation	
Truss	
Symmetry	

BEFORE YOU BUILD

Sketch your design idea:

1. Would a better structure have a wide base or a narrow base?

2. Would a better structure be symmetrical or asymmetrical?

3. How can you secure the sand container so it doesn't fall off?

Collect your materials

- 100 unbroken pieces of uncooked, long pasta, such as spaghetti, linguine or fettuccini
- 50 small marshmallows
- Measuring tape or ruler – will be shared with the class

Build you structure.

You may only use the materials provided.

You may not trade, exchange with or steal from other groups.

Take a picture of your completed tower and insert it here.

6. How tall was your structure?

7. How much does your tower weigh?

8. How much weight did you put on your structure before it fell?

9. What was the efficiency of your tower?
(max weight the tower held / weight of tower)

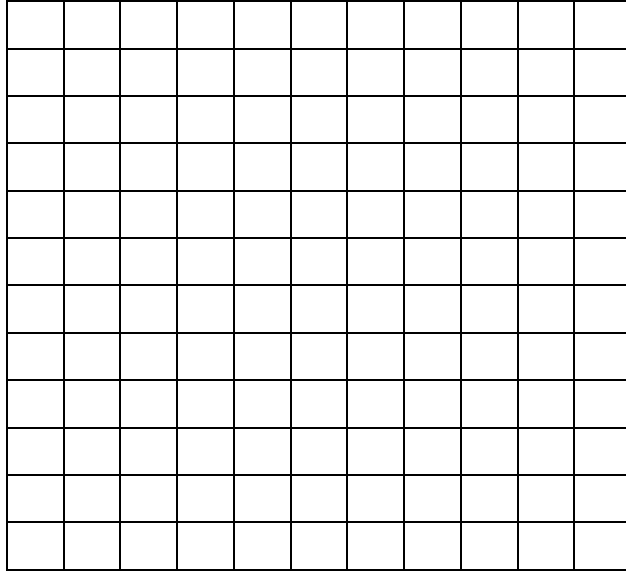
Data Table

[illegible]

Graph the efficiency of each tower in the class

Look at the structures and efficiency calculations of your classmates. Record the data.

(**Label** the TITLE, the X axis and Y axis)



Reflection and Discussion

1. During construction, how did you test the strength and stability of your structure?
2. During construction, what strategies did you use to strengthen the weaker areas?

Why?

3. What are the strongest parts of your building? Why?
4. What are the weakest parts of your building? Why?
5. Where did you use string in your structure? Why?
6. Did you increase the efficiency of your tower?
7. What did you learn by doing this challenge?